

### REMARKS

In view of the foregoing amendments and the following remarks, favorable reconsideration of the outstanding claims in the present application is respectfully requested.

By virtue of the above amendments, claims 32-65 are canceled without prejudice in response to a restriction requirement. Claims 7, 13 and 25 are provisionally withdrawn from further examination because of a species election requirement imposed on by the Examiner in the previous Office action. Claims 1, 9 and 11 are currently amended.

#### **I. Species election requirement**

In the previous Office action, the Examiner issued a restriction requirement regarding the following allegedly patentably distinct species of the claimed invention:

- A. a mixed oxide;
- B. SiAlON (e.g., claim 7);
- C. a mixed oxide including at least three constituents doped with metalloid...components (e.g., claim 13); and
- D. oxyfluoride or oxynitride compositions (e.g., claim 25).

In response filed on January 21, 2005, Applicant has provisionally elected species A, namely, the invention involving the use of a mixed oxide, for further prosecution, with traverse. Applicant has pointed out that claims readable on this elected species include claims 1-6, 8-24 and 26-31.

This restriction requirement was traversed as follows.

This restriction requirement is flawed for several reasons.

Different species are defined to be mutually exclusive. Different species cannot be overlapping. See the MPEP, 806.04(f).

However, obviously, SiAlON is an oxynitride. Therefore, species B as identified by the Examiner actually falls within species D identified by the Examiner.

Further, mixed oxide is not mutually exclusive with "mixed oxide including at least three constituents doped with metalloid, transitional metals, alkali, alkaline earth, or rare earth components." Rather, they overlap. Therefore, the species A and C as identified by the Examiner are not mutually exclusive.

Therefore, Applicant respectfully requests that, in the next Office action, the Examiner withdraw the outstanding species restriction requirement, and proceed with the examination of all claims 1-31.

Applicant maintains this position and respectfully petitions the Office to re-consider this species election requirement and proceed to examine all outstanding claims in the next Office action.

The Examiner has indicated that the species election requirement has been made final.

## **II. Rejections under 35 U.S.C. § 112**

The Examiner has rejected claims 9 and 11 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The Examiner asserted that the use of "selected from" instead of "selected from the group consisting of" in these two claims is improper Markush type claim language, and suggested changing "selected from" to --selected from the group consisting of--. While Applicant disagrees to this reasoning, Applicant has amended both claims according to the Examiner's suggestions, rendering this issue moot.

## **III. Rejections under 35 U.S.C. §§ 102 and 103**

The Examiner has rejected claims 1-3, 4-6, 8-12, 14-24 and 26-31 under 35 U.S.C. § 102(e) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as being unpatentable, over Yano et al. (United States Patent No. 6,740,590).

The Examiner asserted that

In a method for chemical mechanical polishing, Yano teaches a slurry may comprise a non-agglomerated multi-component particles of a mixed oxide composition having an isoelectric point greater than the pH of dispersed particles in solution. A surface of the workpiece may be abraded with the multi-component particles. Since the same slurry used for the same CMP process, each particle exhibits a modified surface chemistry performance inherently. It is expected that the particle surface chemistry is modified (the isoelectric point of the multi-component particle is displaced toward an alkaline pH value) relative to the surface chemistry performance of the individual, original based constituents of the particle. See abstract; cols. 7 and 8.

Citing exactly the same reasons, the Examiner rejected claims 4-6, 8-12, 14-24 and 26-31 under 35 U.S.C. § 103(a) as being unpatentable over Yano et al.

Further, regarding claims 16-20, the Examiner asserted that "Yano teaches the ranges of particle size, see col. 9, lines 6-9."

Applicant respectfully traverses the above rejections.

To be patented an invention must be new. 35 U.S.C. §§101, 102(a), (e). If it is not new, that is, if it was known to others, it is said to be "anticipated." Hoover Group, Inc. v.

Custom Metalcraft, Inc., 66 F.3d 299, 302, 36 USPQ2d 1101, 1103 (Fed. Cir. 1995) ("lack of novelty (often called 'anticipation') requires that the same invention, including each element and limitation of the claims, was known or used by others before it was invented by the patentee"). Anticipation is a question of fact, as is the question of inherency. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). Its proof differs from that for obviousness, 35 U.S.C. § 103, in that prior knowledge by others requires that all of the elements and limitations of the claimed subject matter must be expressly or inherently described in a single prior art reference. In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999); Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571, 7 USPQ2d 1057, 1064 (Fed. Cir. 1988). The single reference must describe and enable the claimed invention, including all claim limitations, with sufficient clarity and detail to establish that the subject matter already existed in the prior art and that its existence was recognized by persons of ordinary skill in the field of the invention. Crown Operations International, Ltd. v. Solutia Inc., 289 F.3d 1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002); In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990) ("the reference must describe the applicant's claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it").

The anticipating reference "must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter." PPG Industries, Inc. v. Guardian Industries Corp., 75 F.3d 1558, 1566, 37 USPQ2d 1618, 1624 (Fed. Cir. 1996). When anticipation is based on inherency of limitations not expressly disclosed in the assertedly anticipating reference, it must be shown that the undisclosed information was known to be present in the subject matter of the reference. Continental Can Co. USA, Inc. v. Monsanto Co., 948 F.2d 1264, 1269, 20 USPQ2d 1746, 1749-50 (Fed. Cir. 1991). An inherent limitation is one that is necessarily present; invalidation based on inherency is not established by "probabilities or possibilities." Scaltech, Inc. v. Retec/Tetra, LLC., 178 F.3d 1378, 1384, 51 USPQ2d 1055, 1059 (Fed. Cir. 1999).

35 U.S.C. § 103 requires that an invention, to be patentable, must not be obvious over the prior art "at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The landmark case on obviousness was Graham v. John Deere Co., 383 U.S. 1 (1966), which set forth three factors for determining whether an invention is obvious: (i) the scope and content of the prior art; (ii) differences between the prior art and the claims at issue; (iii) the level of ordinary skill in the pertinent art; and (4)

objective evidences of non-obviousness such as commercial success, prior skepticism, copying, long felt but unresolved needs, failure of others, etc. All evidences must be considered and given weight in reaching a decision on obviousness under 35 U.S.C. § 103. Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1561, 1 USPQ2d 1593, 1594 (Fed. Cir. 1985) cert. denied, 481 U.S. 1052 (1987); Hodosh v. Block Drug, 786 F.2d 1136, 1143, 229 USPQ 182, 188 (Fed. Cir. 1986), Cert. denied, 479 U.S. 827 (1986); Simmons Fastener Corp. v. Illinois Tool Works, 739 F.2d 1573, 1575, 222 USPQ 744, 746 (Fed. Cir. 1984), cert. denied, 471 U.S. 1065 (1985). Moreover, the prior art itself must suggest the desirability and, therefore, obviousness of a modification of a reference or the combination of references to achieve a claimed invention. Hodosh v. Block Drug, 786 F.2d at 1143 n.5, 229 USPQ at 187 n.5; In re Gorden, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

In making a rejection under 35 U.S.C. § 103(a), the Examiner must establish a prima facie case of obviousness first. Regarding this, the MPEP provides:

The legal concept of *prima facie* obviousness is a procedural tool of examination which applies broadly to all arts. It allocates who has the burden of going forward with production of evidence in each step of the examination process. See *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); *In re Saunders*, 444 F.2d 599, 170 USPQ 213 (CCPA 1971); *In re Tiffin*, 443 F.2d 394, 170 USPQ 88 (CCPA 1971), *amended*, 448 F.2d 791, 171 USPQ 294 (CCPA 1971); *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness.

The MPEP, Eighth Edition, 2142 (emphasis added).

A proper prima facie case of obviousness requires the examiner to satisfy three requirements. First, the prior art relied upon, coupled with knowledge generally available to one of ordinary skill in the art, must contain some suggestion which would have motivated one of ordinary skill to combine references. See *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the examiner must show that, at the time the invention was made, the proposed modification had a reasonable expectation of success. See *Amgen v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991). Finally, the combination of references must teach or suggest each and every limitation of the claimed invention. See *In re Wilson*, 424 F.2d 1832, 1385, 165 USPQ 494, 496 (CCPA 1970). Moreover, both the suggestion and the reasonable expectation of success must be found in the

prior art, not in the applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992).

Applicant submits that Yano et al. fails to teach or suggest every element of claim 1, the sole outstanding independent claim.

Claim 1, as amended, requires that the slurry comprises "non-agglomerated multi-component particles." However, it is clear from the teaching of Yano et al. that the particles in the CMP slurry taught in this reference agglomerated. "When the zeta potentials of the polymer particles and the inorganic particles are thus of opposite signs, the particles aggregate due to electrostatic force, combining together to form composite particles." Lines 33-37, column 7, Yano et al. There is ample teaching in Yano et al. that the particles agglomerate. The particles in the CMP slurry as taught in the examples have sizes in the  $\mu\text{m}$  range (1-5  $\mu\text{m}$  in Example 1A, column 18, for example), clearly indicating that the particles agglomerated. Therefore, Yano et al. clearly teaches against claim 1 of the present application.

Regarding particle size, in the part pointed out by the Examiner, Yano et al. teaches that "[t]he preferred range for the mean particle size of the polymer particles and inorganic particles according to the present invention is 0.01-1.0  $\mu\text{m}$ , preferably 0.01-0.5  $\mu\text{m}$ , and especially 0.01-0.3  $\mu\text{m}$ , for each." The Examiner's attention is directed to the fact that these are the size ranges of particles before agglomeration. The actual particle size in the CMP slurry is much larger, as indicated in the examples in Yano et al. The Examiner's attention is particularly directed to the fact that the particle ranges cited in claims 16-20 of the present application are smaller than those of the agglomerated particles in the examples of Yano et al.

Therefore, Yano et al. does not anticipate any of the outstanding claims, nor does Yano et al. establishes a prima facie case of obviousness of any of the outstanding claims in the present application.

Therefore, Applicant respectfully requests the Examiner to withdraw the above rejections.

#### IV. Conclusions

It is Applicant's view that the elected species of the outstanding claims are allowable subject matter. The Applicant respectfully requests the Examiner to proceed to examine the

non-elected species in the next Office action. See the MPEP, 803.02. Should the examiner not find the non-elected species unpatentable over the prior art, the Examiner is requested to issue a notice of allowance of the outstanding claims in the next Office action.

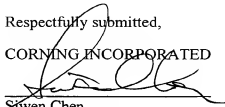
Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Response timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

The undersigned attorney is granted limited recognition by the Office of Discipline and Enrollment of the USPTO to practice before the USPTO in capacity as an employee of Corning Incorporated. A copy of the document granting such limited recognition either has been previously submitted or is being submitted herewith for the record.

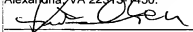
Please direct any questions or comments to the undersigned at (607) 248-1253.

Respectfully submitted,

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Date: June 3rd, 2005

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| Date of Deposit: <u>June 3rd 2005</u><br>I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date indicated above with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.<br><br>Siwen Chen |
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